Name:

Date:

**Warm-Up**

Read the prompt, and complete the table below:

Ms. Guthrie can stuff envelopes three times as fast as her daughter Michaela. They have to stuff 5000 envelopes to send out report cards. Working together, Ms. Guthrie and Michaela can complete the job in about four hours. How many hours would it take each of them working alone?

|  |  |  |
| --- | --- | --- |
|  | Time (hr) | Rate (envelopes per hour) |
| Ms. Guthrie | H |  |
| Michaela |  |  |
| Combined |  |  |

**Notes:**

An aerodynamic covering on a bicycle increases a cyclist’s average speed by 10mph. The time for a 75-mile trip is reduced by 2 hours. What is the average speed for the trip using the aerodynamic covering?

|  |  |  |  |
| --- | --- | --- | --- |
|  | Distance (miles) | Rate (mph) | Time (h) |
| Without covering | 75 |  |  |
| With covering | 75 |  |  |

Meg can run 5 miles downhill in the same time it takes her to run 3 miles uphill. She runs downhill 4mph faster than she runs uphill. Find her running rate each way.

Liza can paint the kitchen in 5 hours.  David can paint the same kitchen in 3 hours.  If they work together, how long will it take to paint the kitchen?

Rodney and Tomaso can build a cabinet together in 12 hours.  Rodney can build the cabinet alone in 16 hours.  How long will it take Tomaso to build the cabinet alone?

An Olympic sized pool can be filled by pipe A in 18 hours and by pipe B in 12 hours.  There is also a drain pipe that drains the entire pool in 8 hours.  If the valves of pipe A, pipe B and the drain pipe are open, how long will it take to fill the pool?